

In The Claims

Claim 1 (withdrawn):A method for making a circuit board assembly comprising the steps of:

providing a core member having a first surface and a second surface;

forming an aperture within said core member, said aperture having an interior surface;

attaching an adhesive material to said first and second surfaces and upon said interior surface;

forming an aperture within a portion of said adhesive material; and

attaching an electrically conductive member to said adhesive material, thereby forming a circuit board assembly.

Claim 2 (withdrawn):The method of claim 1 further comprising the step of causing said electrically conductive member to extend over said aperture which is formed within said core member.

Claim 3 (withdrawn):The method of claim 1 further comprising the step of causing said aperture within said core member to communicate with said aperture formed within said adhesive material.

Claim 4 (withdrawn):The method of claim 3 further comprising the step of placing a dielectric material upon said interior surface.

Claim 5 (withdrawn):The method of claim 2 further comprising the steps
of:

attaching said electrically conductive member to a second member ; and

selectively removing portions of said second member.

Claim 6 (withdrawn): The method of claim 5 wherein said removal of said portions of said second member extends said aperture which is formed within said core member.

Claim 7 (withdrawn): A method for making a circuit board comprising the steps of:

providing a core member having a first surface and a second surface;

forming a first aperture, having a first interior surface within said core member and a second aperture, having a second interior surface, within said core member;

selectively applying a dielectric material to said first surface and said second surface of said core member while exposing a first and a second surface of said core member;

selectively applying said dielectric material to said first and second surfaces, thereby forming a first pre-circuit assembly having a first surface and a second surface;

providing a first and a second layer of adhesive materials;

forming a first and second aperture within said second layer of adhesive material;

selectively applying said first layer of said adhesive material to said first surface of said first pre-circuit assembly, effective to extend said first aperture and applying said second layer of said adhesive material upon said second surface of said first pre-circuit assembly, thereby extending said second aperture and forming a second pre-circuit assembly having a first and a second surface;

attaching a first electrically conductive member to said first surface of said second pre-circuit assembly and attaching a second electrically conductive member to said second surface of said second pre-circuit assembly;

removing certain selective portions of said first and second electrically conductive members, effective to extend said first and second apertures and to form a third and a fourth aperture within said second pre-circuit assembly;

providing a third pre-circuit assembly;

selectively applying said adhesive material to said second pre-circuit assembly;

attaching said third pre-circuit assembly to said adhesive material resident upon said second pre-circuit assembly; and

selectively removing portions of said third pre-circuit assembly upon said second pre-circuit assembly, effective to cause a first portion of said third pre-circuit assembly to overlay said first aperture and to cause said third pre-circuit assembly to overlay said first aperture and to cause a second portion of said third pre-circuit assembly to overlay said second aperture, thereby forming a circuit board assembly.

Claim 8 (withdrawn):The method of claim 7 wherein third pre-circuit assembly includes a core member having a first and a second surface, an electrically conductive member being disposed upon said first surface and an electrically conductive member being disposed upon said second surface.

Claim 9 (withdrawn):The method of claim 8 wherein said step of removing portions of said third pre-circuit assembly comprises

the steps of:

selectively removing certain portions of said core member and of said electrically conductive members disposed upon said first and second surfaces of said third pre-circuit assembly.

Claim 10 (withdrawn): The method of claim 7 wherein said core member comprises copper.

Claim 11 (withdrawn): The method of claim 7 further comprising the step of:

removing a portion of said first electrically conductive member, effective to cause a first portion of said first electrically conductive member to extend within said third aperture and to cause a second portion of said first electrically conductive member to extend within said fourth aperture.

Claim 12 (withdrawn): The method for making a circuit board assembly of claim 7 wherein a certain electrically conductive solder material is selectively placed within said first, second, third, and fourth apertures.

Claim 13 (withdrawn): A method for making a circuit board comprising the steps of:

providing a first electrically conductive member having a first surface and a second surface;

forming a first aperture, a second aperture, and a third aperture within said electrically conductive member;

applying a first layer of adhesive material upon said first surface of said first electrically conductive member and within said first, second, and third apertures;

applying a second layer of adhesive material upon said

second surface of said first electrically conductive member and within said first, second, and third apertures, effective to connect to said first layer of adhesive material within said first, second, and third apertures, and said first and second layers of adhesive material cooperatively filling said first, second, and third apertures;

placing a second electrically conductive member upon said first layer of adhesive material, said second electrically conductive member having a first and a second aperture within said second electrically conductive member;

placing a third electrically conductive member upon said second layer of adhesive material, said third electrically conductive member having a first and a second aperture formed within said third electrically conductive member, thereby forming a first pre-circuit assembly;

forming a first aperture within said first pre-circuit assembly having a first interior surface, a second aperture within said first pre-circuit assembly having a second interior surface, and a third aperture within said first pre-circuit assembly having a third interior surface;

applying a certain electrically conductive material upon said first and second interior surfaces within said first pre-circuit assembly and upon certain selective portions of said second and third electrically conductive members;

selectively applying a third layer of adhesive material upon certain portions of said second electrically conductive member and upon certain portions of said third interior surface within

said first pre-circuit assembly, effective to overlay said first and second apertures within said first pre-circuit assembly and effective to fill said first and second apertures within said second electrically conductive member;

selectively applying a fourth layer of adhesive material upon certain portions of said third electrically conductive member and upon certain portions of said third interior surface within said first pre-circuit assembly, effective to overlay said first and second apertures within said first pre-circuit assembly and effective to fill said first and second apertures within said third electrically conductive member;

selectively applying a second pre-circuit assembly upon said third layer of adhesive material;

selectively applying a third pre-circuit assembly upon said fourth layer of adhesive material effective to cover said third aperture within said first pre-circuit assembly ; and

selectively removing certain portions of said second pre-circuit assembly, thereby forming a circuit board assembly.

Claim 14 (withdrawn): The method of claim 13 wherein said first, second, and third electrically conductive members comprise copper.

Claim 15 (withdrawn): The method of claim 13 wherein said second pre-circuit assembly comprises a first core member disposed

between a fourth electrically conductive member and a fifth electrically conductive member.

Claim 16 (withdrawn): The method of claim 13 wherein said third

pre-circuit assembly comprises a second core member disposed between a sixth electrically conductive member and a seventh electrically conductive member.

Claim 17 (withdrawn): A circuit board assembly comprising:

- a core electrically conductive member contained between a first layer of epoxy and a second layer of epoxy;

- a first electrically conductive member contained between a first layer of adhesive and a second layer of adhesive, said second layer of adhesive connected to said first layer of epoxy;

- a second electrically conductive member contained between a third layer of adhesive material and a fourth layer of adhesive material, said second layer of adhesive material connected to said second layer of epoxy;

- a first pre-circuit assembly having a first central member contained between a third electrically conductive member and a fourth electrically conductive member, said fourth electrically conductive member being attached to said first layer of adhesive material; and

- a second pre-circuit assembly having a second central metal member contained between a fifth electrically conductive member and a sixth electrically conductive member, said fifth electrically conductive member being attached to said fourth layer of adhesive material, thereby forming a circuit board assembly, said second pre-circuit assembly cooperating with said fourth layer of said adhesive material and said second electrically conductive member to form at least one stepped aperture within said circuit board assembly.

Claim 18 (withdrawn): The electric circuit board of claim 17 further comprising at least one conduit type aperture which is selectively formed within said circuit board.

Claim 19 (withdrawn): The electric circuit board of claim 17 further comprising:

said first electrically conductive member having two notch-shaped apertures; and

said fourth electrically conductive member selectively protruding into said formed aperture, effective to form a step.

Claim 20 (withdrawn): The electric circuit board of claim 17 further comprising:

said first and third layers of adhesive material selectively connecting, effective to shield said first electrically conductive member from said formed aperture; and

said fourth electrically conductive member protruding into said formed aperture, effective to form a step.

Claim 21 (withdrawn): The circuit board of claim 18 wherein said conduit type aperture is selectively formed through said core electrically conductive member, said first and second layers of epoxy, said first and second layers of adhesive, and said first and second electrically conductive members, said circuit board further comprising:

a second portion of said second adhesive material applied within said aperture, effective to connect said first and second layers of electrically conductive material;

a certain electrically conductive material selectively electroplated to said second portion of said second adhesive and

to a portion of said first and second electrically conductive members within said aperture and to a portion of said first and second electrically conductive materials proximate to said aperture, effective to electrically connect said first and said second electrically conductive members to said aperture, thereby forming an electroplated conduit type aperture within said circuit board.

Claim 22 (withdrawn): The circuit board of claim 19 wherein said conduit type of epoxy material, said first layer of adhesive material and said first electrically conductive member, said circuit board further comprising:

a layer of electrically conductive material which is applied to certain portions of said electrically conductive member, said first layer of epoxy, said first adhesive layer, and said first electrically conductive member exposed within said conduit type aperture, and to certain portions of said first electrically conductive member which are proximate to said conduit type aperture, thereby forming a circuit board assembly having and electroplated conduit type aperture.

Claim 23 (withdrawn): The electric circuit board of claim 17 further comprising:

said first electrically conductive member protruding into said stepped aperture, thereby forming a step; and

a certain electrically conductive solder material which is applied within said aperture and upon said core electrically conductive member effective to electrically connect said formed step and said core electrically conductive member, thereby

forming a circuit board assembly having a soldered stepped aperture.

Claim 24 (currently amended): A method for making a circuit board, said method comprising the steps of:

providing an electrically conductive core member having at least one aperture traversing from a top surface to a bottom surface of said electrically conductive core member;

applying a layer of a first dielectric material to said top surface and said bottom surface while leaving said at least one aperture exposed;

applying a separate second dielectric material upon said exposed at least one aperture, thereby forming a first pre-circuit assembly having a core member with said first dielectric material upon said top surface and said bottom surface and said second dielectric material within said at least one aperture;

applying a pair of layers of adhesive to said first pre-circuit assembly, wherein said layers of adhesive material have at least one aperture which corresponds to said at least one aperture in said core assembly;

providing a pair of electrically conductive members; coupling said pair of conductive members to said first pre-circuit assembly to substantially cover said at least one aperture; and

removing at least one portion of said pair of conductive members which covers said at least one aperture.

Claim 25 (previously presented): The method of claim 24 further comprising the steps of:

providing at least one second pre-circuit assembly; and
coupling said at least one second pre-circuit assembly to at least one of said pair of conductive members.

Claim 26 (previously presented): The method of claim 25 further comprising the step of inserting solder material within said at least one aperture to electrically couple said first pre-circuit assembly to said at least one second pre-circuit assembly.

Claim 27 (previously presented): The method of claim 24 wherein said pair of conductive members are coupled to said first pre-circuit assembly through said pair of layers of adhesive material.

Claim 28 (previously presented): The method of claim 27 wherein said pair of conductive members are coupled to pair of layers of adhesive material by a laminating process.

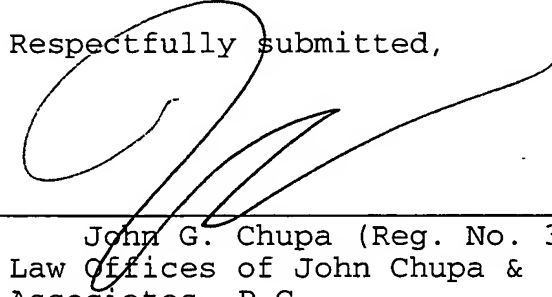
Claim 29 (previously presented): The method of claim 24 wherein the step of removing at least one portion of said pair of conductive members comprises the steps of:

subjecting said pair of conductive members to an image printing process, whereby said at least one portion remains exposed; and

applying an etching material to said exposed at least one portion of said pair of conductive members.

If the Examiner has any further questions regarding this matter, the Examiner is invited to call the Applicant's undersigned Attorney at (248) 324-7787.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'John G. Chupa', is written over a horizontal line.

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